Claim Amendments

1. (currently amended) In a communication system, a method for media access control feedback over a packet channel divided in channel time slots comprising the steps of:

dividing the channel time slots into sub-channel time slots;

defining a packet channel feedback field associated with each sub-channel time slot;

forming a sub-channel feedback field in the packet channel feedback field to indicate acknowledgments; ~~and~~

forming a sub-channel assignment field in the packet channel feedback field to indicate time slot assignments;

assigning a first temporary mobile identity to a first active mobile station and a second temporary local mobile identity to a second active mobile station;

inserting the first temporary mobile identity into the sub-channel feedback field to indicate an acknowledgment for the first active mobile station;

inserting the second temporary mobile identity into the sub-channel assignment field to indicate a time slot assignment for the second active mobile station; and

sending the packet channel feedback field in a signaling message to the first and second active mobile stations.

2. (canceled)

3. (currently amended) The method as recited in claim ~~2~~ 1 wherein the ~~assigned active~~ first temporary mobile identity is used to identify ~~an~~ the first active mobile station to receive packet data signals.

4. (currently amended) The method as recited in claim ~~2~~ 1 comprising the step of:

invalidating the ~~active~~ first temporary mobile identity after one transaction of packet data signals.

5. (currently amended) The method as recited in claim ~~2~~ 1 wherein the step of assigning ~~an active~~ the first temporary mobile identity comprises the step of:

assigning the ~~active~~ first temporary mobile identity during a transaction initiation procedure in the system.

6. (currently amended) The method as recited in claim ~~2~~ 1 wherein the step of assigning comprises the step of:

assigning a plurality of ~~active~~ temporary mobile identities and ones of the ~~active~~ temporary mobile identities are reserved for special functions.

7. (currently amended) The method as recited in claim ~~2~~ 1 wherein the step of assigning comprises the steps of:

assigning a plurality of ~~active~~ temporary mobile identities; and

assigning a subset of the ~~active~~ temporary mobile identities as mobile station identifiers.

8. (currently amended) The method as recited in claim ~~2~~ 1 wherein the ~~assigned active~~ first temporary mobile identity is used to indicate a time slot assignment for the first active mobile station.

9. (original) The method as recited in claim 8 comprising the step of:

transmitting packet data signals on an uplink over the packet channel based on the time slot assignments.

10. (currently amended) In a communication system, a method for media access control feedback over a packet channel divided in channel time slots comprising the steps of:

dividing the channel time slots into sub-channel time slots;

defining a packet channel feedback field associated with each sub-channel time slot;

~~indicating acknowledgments using the packet channel feedback field;~~

assigning ~~an active~~ first temporary mobile identity ~~associated with~~to ~~an~~ first active mobile station and a second temporary mobile identity to a second active mobile station; ~~and wherein the step of indicating acknowledgments comprises the step of:~~

~~including the active mobile identity in the packet channel feedback field;~~

~~wherein the assigned active mobile identity is used to indicate a time slot assignment for the active mobile station; and~~

transmitting packet data signals on an uplink over the packet channel based on the time slot assignments, wherein the step of transmitting comprises the steps of:

forming a sub-channel feedback field in the packet channel feedback field to indicate acknowledgments; and

forming a sub-channel assignment field in the packet channel feedback field to indicate time slot assignments, the sub-channel assignment field being substantially independent of the sub-channel feedback field;

inserting the first temporary mobile identity into the sub-channel feedback field to indicate an acknowledgment for the first active mobile station;

inserting the second temporary mobile identity into the sub-channel assignment field to indicate a time slot assignment for the second active mobile station; and

sending the packet channel feedback field in a signaling message to the first and second active mobile stations.

11. (original) The method as recited in claim 10 wherein a format of the sub-channel feedback field depends on whether it is in response to a contention access or a reserved access.

12. (currently amended) The method as recited in claim 10 wherein the sub-channel feedback field comprises ~~an active~~the first temporary mobile identity that indicates acknowledgment in response to a contention access.

13. (currently amended) The method as recited in claim 10 wherein the step of assigning comprises the steps of:

assigning a plurality of ~~active~~ temporary mobile identities; and

reserving a set of the ~~active~~ temporary mobile identities for special functions.

14. (currently amended) The method as recited in claim 10 wherein the step of assigning comprises the steps of:

assigning a plurality of ~~active~~ temporary mobile identities; and

using a subset of values for the ~~active~~ temporary mobile identities as mobile station identifiers.

15. (original) The method as recited in claim 10 wherein the sub-channel feedback field contains flags indicating acknowledgment and continued reservation on the sub-channel.

16. (currently amended) The method as recited in claim 10 wherein the step of forming a sub-channel feedback field comprises the step of:

setting the sub-channel feedback field to a special value ~~active mobile identity value~~ to indicate a negative acknowledgment.

17. (currently amended) The method as recited in claim 16 wherein the step of forming a sub-channel assignment field comprises the step of:

setting the sub-channel assignment field to a special value ~~active mobile identity value~~ to indicate contention.

18. (currently amended) The method as recited in claim 10 wherein the step of forming a sub-channel assignment field comprises the step of:

setting the sub-channel assignment field to ~~an~~ value of the ~~active~~ second temporary mobile identity ~~value~~ to indicate time slot assignment.

19. (currently amended) The method as recited in claim 1 wherein the system comprises ~~a~~ the first active mobile station and a base station, and wherein the method comprises the steps of:

transmitting from the first active mobile station a request to initiate packet data transmissions to the base station based on the packet channel feedback field;

including a suggested value for the ~~active~~ first temporary mobile identity ~~value~~ in the request; and

awaiting an acknowledgment from the base station in the packet channel feedback field.

20. (currently amended) The method as recited in claim 19 wherein an acknowledgment in the packet channel feedback field indicates acceptance of the suggested value for ~~active~~ the first temporary mobile identity.

21. (currently amended) The method as recited in claim 19 comprising the step of:

if a negative acknowledgment is received in the packet channel feedback field, waiting a time period before the first active mobile station makes another request.

22. (currently amended) ~~In a communication system, a method for media access control feedback over a packet channel divided in channel time slots comprising the steps of:~~

~~dividing the channel time slots into sub-channel time slots;~~

~~defining a packet channel feedback field associated with each sub-channel time slot;~~

~~indicating acknowledgments using the packet channel feedback field, wherein the system comprises a mobile station and a base station;~~

~~transmitting from the mobile station a request to initiate packet data transmissions to the base station based on the packet channel feedback field;~~

~~including a suggested active mobile identity value in the request;~~

~~awaiting an acknowledgment from the base station in the packet channel feedback field; and~~

~~if a negative acknowledgment is received in the packet channel feedback field, waiting a time period before the mobile station makes another request,~~ The method as recited in claim 19 wherein the step of waiting a time period comprises the step of:

waiting for an assignment of the ~~active~~ first temporary mobile identity ~~assignment~~ to the first active mobile station to be received from the base station.

23. (currently amended) A method for transmitting packet data signals in a time slotted packet channel comprising the steps of:

creating sub-channel time slots associated with the time slotted packet channel;

~~defining an active mobile identity associated with an active mobile station;~~

~~identifying acknowledgments using the active mobile identity;~~

transmitting from ~~the~~ a first active mobile station a request to initiate packet data transmissions to a base station;

including ~~the~~a suggested value for a ~~active~~ first temporary mobile identity in the request;

awaiting an acknowledgment from the base station; ~~and~~

if a negative acknowledgment is received, waiting for an assigned value for the ~~an active~~ first temporary mobile identity ~~assignment to~~ of the first active mobile station to be received from the base station in a packet channel feedback field of a signaling message; and

wherein the packet channel feedback field comprises the first temporary local mobile identity to indicate acknowledgment for the first active mobile station, wherein the packet channel feedback field also comprises a second temporary local mobile identity assigned to a second active mobile station to allocate one or more of the sub-channel time slots for the second active mobile station.

24. (currently amended) The method as recited in claim 23 further comprising the step of:

identifying assignments of sub-channel time slots based on the ~~active~~ first temporary mobile identity.

25. (currently amended) The method as recited in claim 24 ~~wherein the step of defining~~ further ~~comprises~~ comprising the step of:

invalidating the ~~active~~ first temporary mobile identity after one transaction of packet data signals.

26. (currently amended) A communication device for communicating via packet data signals over a packet channel comprising:

a sub-channel controller for identifying acknowledgments and assignments of time slots on the packet channel based on a packet channel feedback field; and

a channel access manager for controlling access to the packet channel based on the acknowledgments and assignments;

wherein the packet channel feedback field comprises a sub-channel feedback field to indicate acknowledgments;

wherein the packet channel feedback field comprises a sub-channel assignment field to indicate time slot assignments;

wherein a first one of the sub-channel feedback field and the sub-channel assignment field in a signaling message comprises a first temporary mobile identity assigned to the communication device, wherein a second one of the sub-channel feedback field and the sub-channel assignment field in the signaling message comprises a second temporary mobile identity assigned to another communication device.

27. (currently amended) The communication device as recited in claim 26 wherein the sub-channel controller identifies acknowledgments based on the packet channel feedback field and ~~an active~~ the first temporary mobile identity associated with the communication device.

28. (original) The communication device as recited in claim 27 wherein the device is a mobile station.

29. (currently amended) The ~~communication device~~ method as recited in claim 1 wherein the sub-channel assignment field being substantially independent of the sub-channel feedback field.

30. (currently amended) The communication device as recited in claim 26 wherein the sub-channel assignment field being substantially independent of the sub-channel feedback field.

31. (new) The method as recited in claim 1 comprising the steps of:

employing the sub-channel feedback field to acknowledge a previous reserved or contention based access from the first active mobile station; and

employing the sub-channel assignment field to assign a next one of the sub-channel time slots to the second active mobile station.

32. (new) In a communication system, a method for media access control feedback over a packet channel divided in channel time slots comprising the steps of:

dividing the channel time slots into sub-channel time slots;

defining a packet channel feedback field associated with each sub-channel time slot;

assigning a first temporary local mobile identity to a first active mobile station and a second temporary local mobile identity to a second active mobile station;

inserting the first temporary local mobile identity into the packet channel feedback field of a signaling message to indicate an acknowledgment for the first active mobile station;

inserting the second temporary local mobile identity into the packet channel feedback field of the signaling message to allocate one or more of the sub-channel time slots for the second active mobile station; and

sending the signalling message to the first and second active mobile stations.

33. (new) The method as recited in claim 32 comprising the step of:

freeing the first temporary local mobile identity, upon completion of a transaction by the first active mobile station, for subsequent assignment of the first temporary local mobile identity to a third active mobile station.

34. (new) The method as recited in claim 32 comprising the step of:

coordinating contemporaneous use of one of the sub-channel time slots by the first active mobile station and the second active mobile station.

35. (new) The method as recited in claim 34 wherein the step of coordinating comprises the step of:

allowing the second active mobile station to use the one of the sub-channel time slots for a transaction while the first active mobile station waits to finish a transaction.

36. (new) The method as recited in claim 32 comprising the steps of:

assigning the first temporary local mobile identity to the first active mobile station to allow the first active mobile station access to one or more of the sub-channel time slots for a first transaction; and

assigning the second temporary local mobile identity to the second active mobile station to allow the second active mobile station access to one or more of the sub-channel time slots for a second transaction that occurs contemporaneously with the first transaction.

37. (new) The method as recited in claim 32 comprising the step of:

dynamically changing an assignment of the first active mobile station from a first one of the sub-channel time slots to a second one of the sub-channel time slots to complete a transaction.

38. (new) The method as recited in claim 32 comprising the step of:

employing the first and second temporary local mobile identities to identify uplink time slot assignments and to identify a recipient of data on a downlink.

39. (new) The method as recited in claim 32 comprising the steps of:

initially assigning one of the sub-channel time slots to the first active mobile station to begin a transaction; and

subsequently assigning an additional one of the sub-channel time slots to the first active mobile station to continue with the transaction.

40. (new) The method as recited in claim 39 wherein the step of subsequently assigning comprises the steps of:

determining that the first active mobile station would benefit from use of the additional one of the sub-channel time slots during the transaction; and

inserting, without a contention offer of the additional one of the sub-channel time slots, the first temporary local mobile identity into a sub-channel assignment field in the packet channel feedback field to indicate assignment of the additional one of the sub-channel time slots to the first active mobile station.

41. (new) The method as recited in claim 32 wherein a base station selects the first and second temporary local mobile identities for the first and second active mobile stations from a pool of available temporary local mobile identities.